



PCO Brief

***RADM Dick Brooks, USN
Commander, Naval Safety
Center***

13 Jul 2004



Mission Statement

Our purpose is to enhance the warfighting capability of the Navy and Marine Corps by arming our Sailors, Marines and civilians with the knowledge they need to save lives and preserve resources while accomplishing their missions.

Mission: Readiness

Product: Awareness

Process: Education

Bottom Line: It's Your Safety Center!

What are we doing for you?
What are we not doing for you?



External Chain of Command

CHIEF OF NAVAL OPERATIONS

Special Assistant for Safety Matters
(CNO N09F)
Commander, Naval Safety Center

Special Assistant for Safety Matters
(CNO N09FB)
Washington Liaison



Naval Safety Center

Providing Fleet support in aviation,
shore, afloat and OSH



NSC at your service ... for free!

Let our experience, expertise and
unrivalled commitment to safety
work for you.

- **Mishap Investigations**
- **Surveys**
- **Assist Visits**
- **Exhibits**
- **Presentations**
- **Publications**
- **Website**
- **Data Analysis**
- **Workshops**

Call 757-444-3520 (DSN 564)
or visit us on the web:
www.safetycenter.navy.mil

MAGAZINES



SURVEYS



STATISTICS



MARKETING



ON THE ROAD

- Culture workshops
- Unit surveys
- ORM unit training
- Mishap investigations
- USMC MTT seminars
- PCO briefings

AWARENESS

- Fleet Analysis
- Magazines printed/distributed
(267,346 copies)
- Interactive CD's
- Acquisition process in-roads
- Safety advisories
- Customer information requests
(3,600+ database queries per
month)
- Safety Center web page

**WHAT DO YOU NEED
FROM YOUR NSC?**





NSC Website: Your Valuable

**www.safetycenter.
navy.mil**

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Safety in the Spotlight ...

Simple Lessons Learned from Hurricane Isabel

Some lessons learned from Hurricane Isabel to help you when severe weather strikes your area.

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- **[We've Changed Our Home Page](#)** - Here's an intro to our new home page to help you find things better.
- **[Feeding a Harrier](#)** - A Marine gets a little too close to an intake and gets the surprise of a lifetime.
- **[Sometimes It's the Simple Things](#)** - The seemingly [Afloat Safety](#) t claimed three lives 35 years ago aboard one of the Navy's deep submersibles.
- **[A Killer: Anger Behind the Wheel](#)** - An angry motorist kills a young woman when she doesn't move out of his way.

Services

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Marine Corps Safety

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Data and Statis

- Analyze 12 million records
- More than 3,000 retrievals per month
- Afloat Directorate
- Enter 1,100 afloat mishaps/year
- Average 2 major queries/month affecting policy, design, procedures, etc.
- Provide 200-300 queries/month to ships, contractors, analysts, etc.



***Data Comes
From You!***



Our Magazines Reach Every Community

APPROACH (1955)

16,183 copies

approach@safetycenter.navy.mil

MECH (1961)

17,124 copies

mech@safetycenter.navy.mil

GROUND WARRIOR (1999)

27,550 copies

groundwarrior@safetycenter.navy.mil

SEA&SHORE (2004)

30,442 copies

SAFE-Ashore@navy.mil

FATHOM (1969-2003)

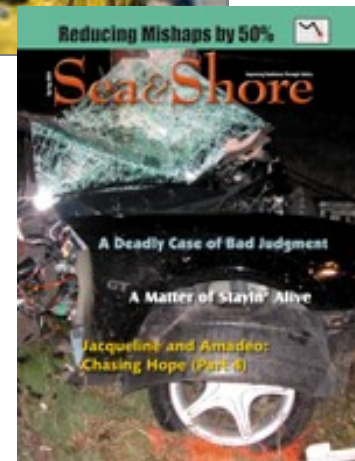
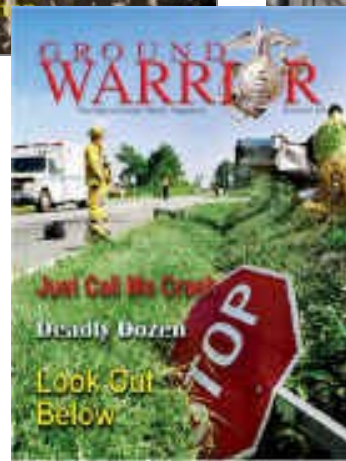
Out of circulation. For archives, visit:

<http://safetycenter.navy.mil/media/fathom/default.htm>

ASHORE (1985-2003)

Out of circulation. For archives, visit:

<http://safetycenter.navy.mil/media/ashore/default.htm>



**For distribution inquiries,
contact:
virginia.rives@navy.mil
757.444-3520 ext. 7256**



What's A Safety Survey?

- Free, one-day assessment by Safety Center
- Survey teams train staff to identify hazards and fix problems with their programs
- No formal reports to higher authority -- not an inspection





Survey Results - They Work!



AVIATION / FY03

- 79 squadrons received safety surveys - 1 (1%) had Class-A mishap
- 192 squadrons did not receive safety surveys - 37 (19%) had Class-A mishap
- 1 mishap vice 15 - saved \$322 million (23 per mishap)



SURFACE / FY00-03

- 299 Commands had a Safety Survey and No Mishaps (88.7%)
- 38 Commands had one or more Mishaps (11.3%)
- 29 Commands had no Safety Survey Prior to the Mishap (8.6% of all Commands) (76.3% of all Mishap Commands)



SUB-SURFACE / FY02-03

- 61 subs had safety surveys - only 1 class-A mishap
- 13 did not receive safety surveys - 4 had class-A mishap



SHORE / FY02-03

In the past years, we haven't been able to make the same connection as the aviation, surface and sub-surface communities.



Where Are We?

**During FY99-04 ,
mishaps cost the Navy
and Marine Corps \$4.6**



238 Sailors and Marines died in FY02

232 Sailors and Marines died in FY03

**153 Sailors and Marines died this fiscal
year to date (7 Jul)**

Indirect costs?

Families

Propert

y

Futures

65% - 70% = PMV & REC

NSC Data: Fiscal Year 2004 (7 Jul)

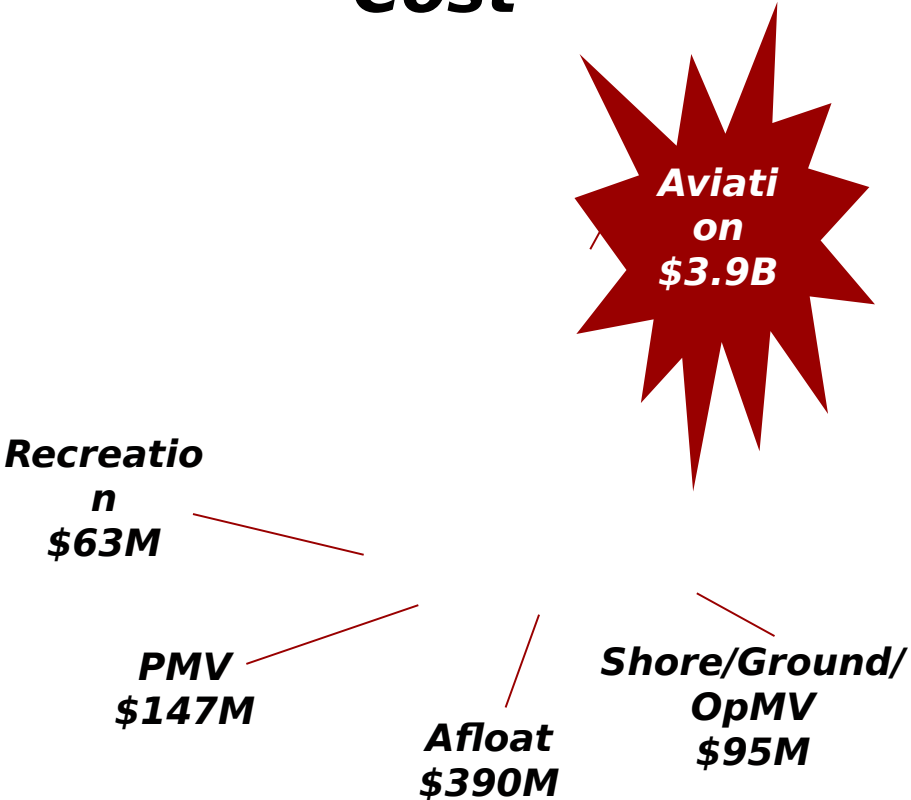


Cost and Deaths

USN/USMC, FY99-04

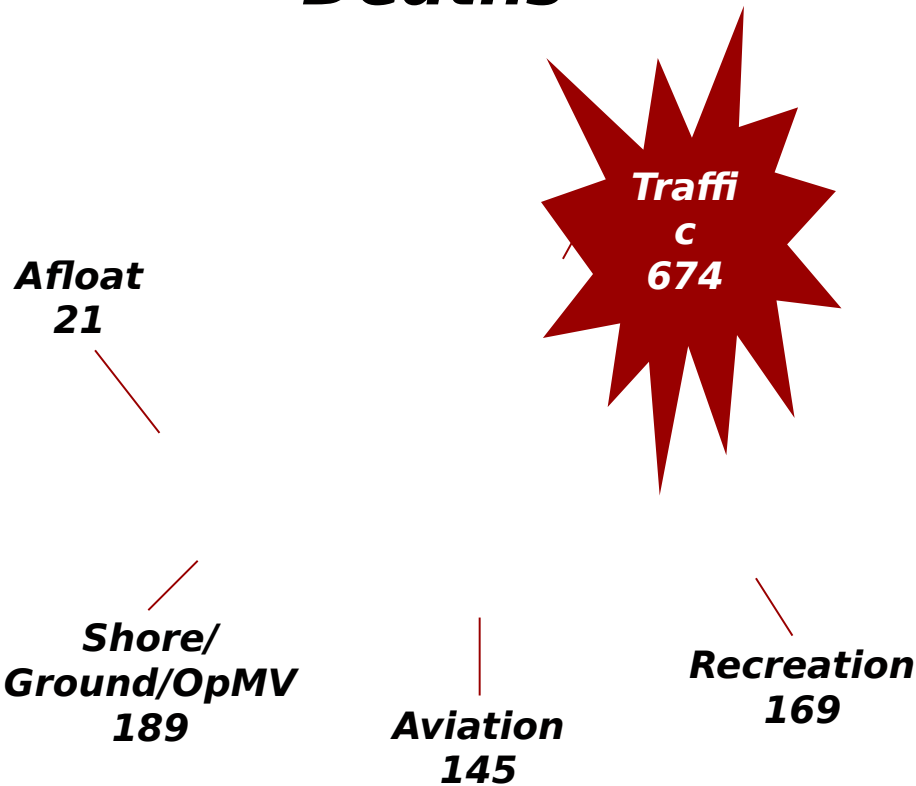
NSC Data: Fiscal Year 2004 (7 Jul)

Cost



5-Year Plus Total: **\$4.6B**

Deaths



5-Year Plus Total: **1,198**





***“Life is tough, but it’s
tougher if you’re stupid”***



***Sergeant John M.
Stryker, USMC
“The Sands of Iwo
Jima”***















Human Error Trends

USN/USMC, FY98-03

No. of Class-A Mishaps

Human Error

USN Aviation	 120 of 133	 HE 90%	Non-HE 10%
USMC Aviation	 60 of 69	 HE 87%	Non-HE 13%
Navy Afloat	 48 of 51	 HE 94%	Non-HE 6%
Navy OpShore (non-MV) *based on events with known causes	 50 of 56*	 HE 89%	Non-HE 11%
Navy PMV Fatalities	 314 of 383	 HE 86%	Non-HE 14%





Human Error

- ***Procedural***
- ***Human Learning Curve***
- ***Disregard for Standing Rules & Regulations***
- ***“I’m so Experienced” Syndrome***
- ***“Can’t Happen to Me!”***

How Do We Solve Human Error?

INTRUSIVE LEADERSHIP



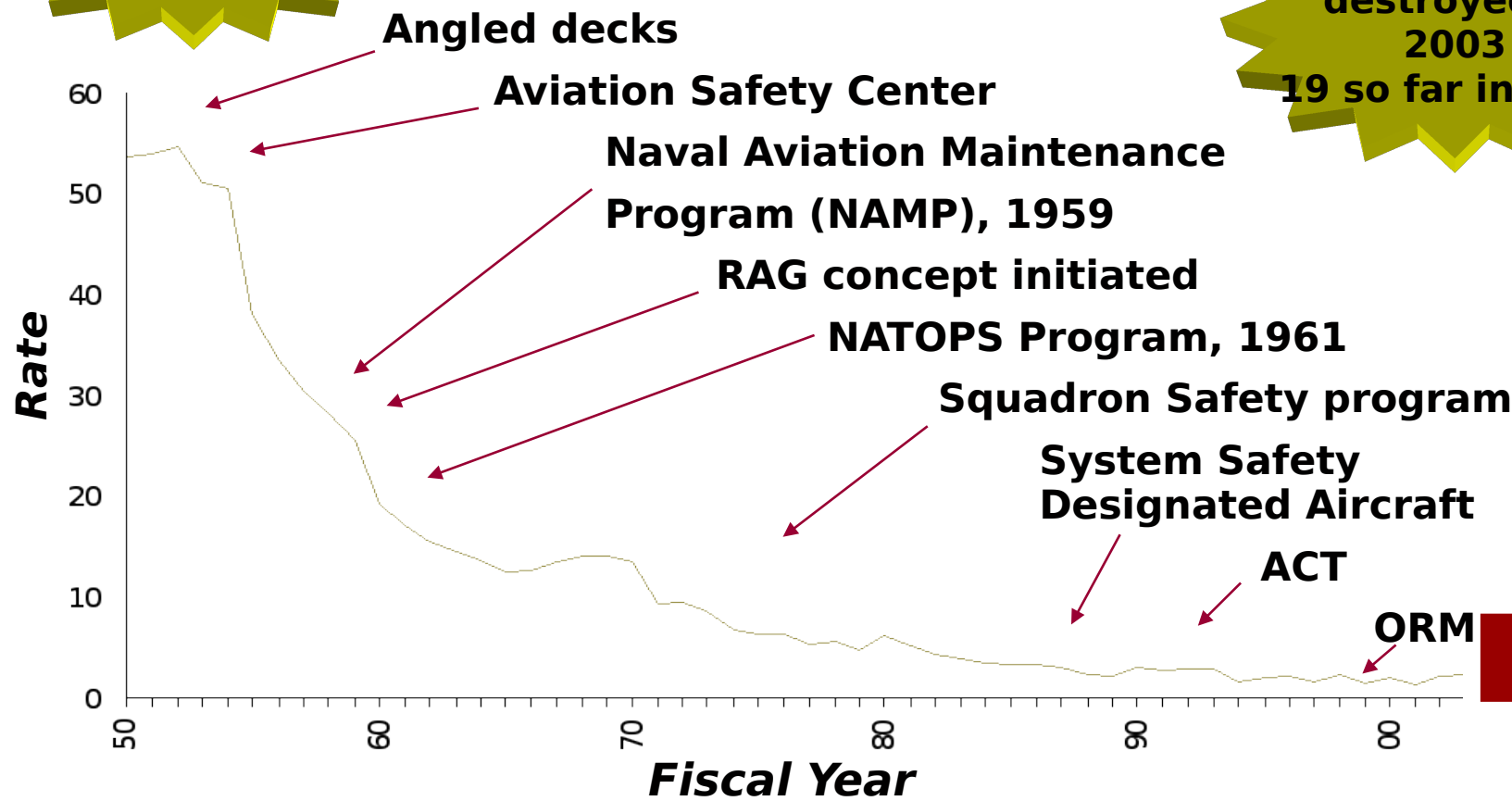
Naval Aviation Mishap Trend

USN/USMC, FY50-04

NSC Data: Fiscal Year 2004 (7 Jul)

776 aircraft destroyed in 1954

28 aircraft destroyed in 2003
19 so far in 2004



FY03 2.44
FY04 2.01





Naval Aviation Mishap Trend

USN and USMC, FY93-04

NSC Data: Fiscal Year 2004 (7 Jul)

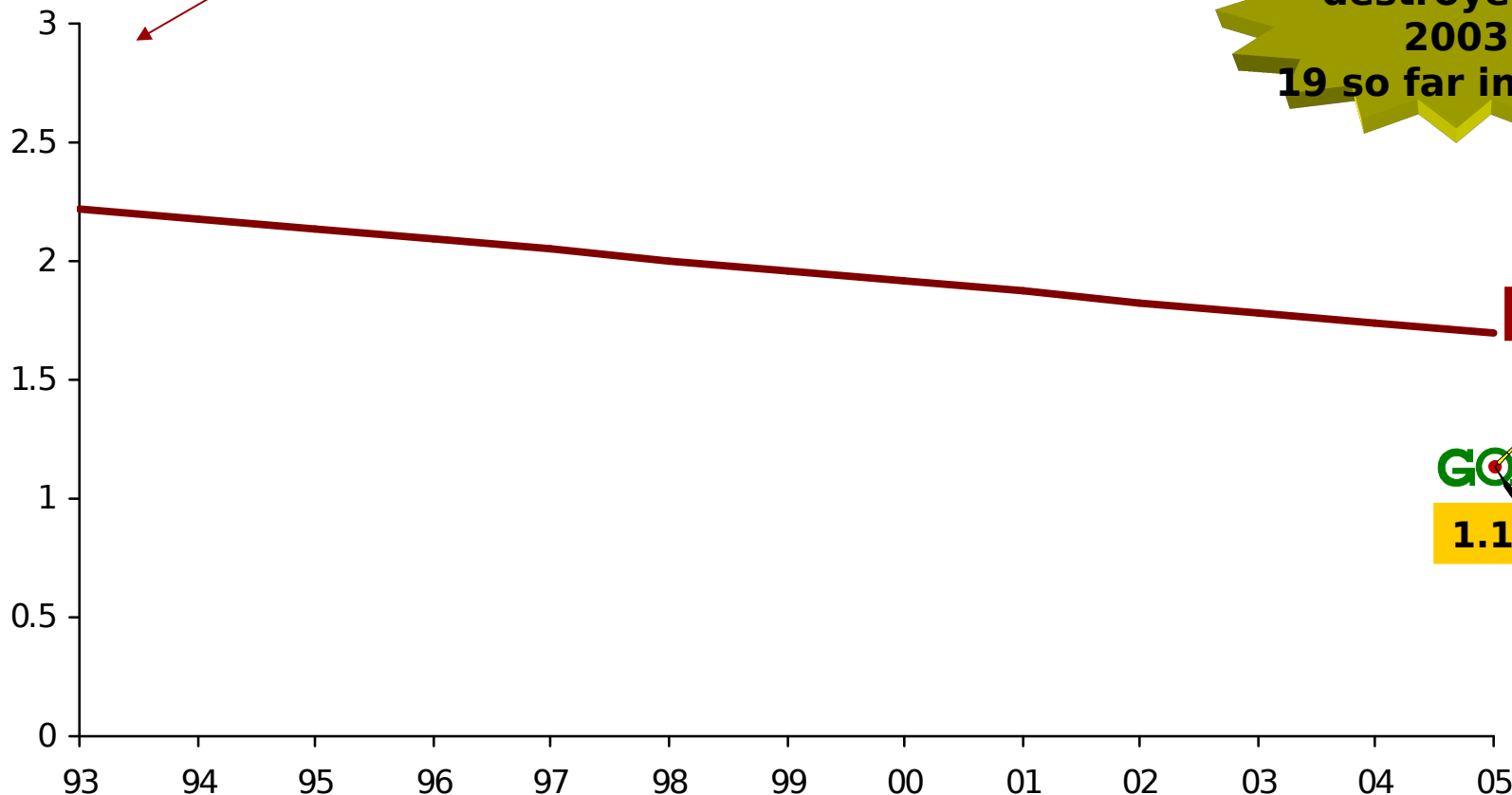
ORM

28 aircraft
destroyed in
2003
19 so far in 2004

FY04 2.01

GOAL

1.14 by FY05



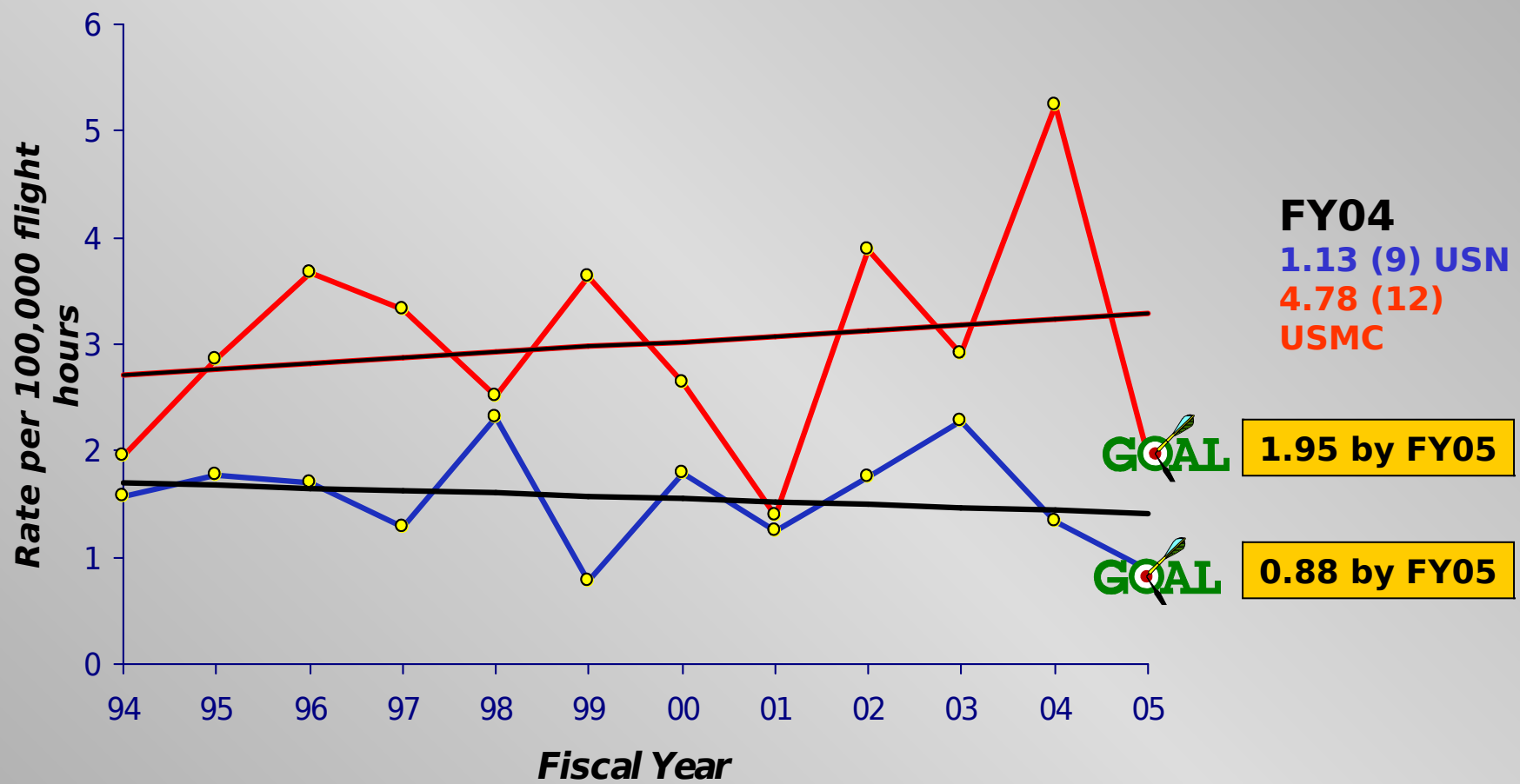
Fiscal Year





Class-A Flight Mishap Rates

USN/USMC, FY93-04 NSC Data: Fiscal Year 2004 (7 Jul)





Intervention Strategies





Aviation

Procedures - Standards - Training - Awareness

Trends

Mishap Investigations

- **Human error (aircrew):**

- Leading causal factor**

- **Skill-based errors**
 - **Decision errors**

- Leading Preconditions**

- **CRM failure**
 - **Adverse Mental**

Surveys

States

- **Manning/inexperience**
- **Training**
quality/quantity
- **NATOPS/technical pubs**
- **Cannibalization rates**
up

Takeaways

- **Improve training**
- **Fund**
 - **State-of-art simulators**
 - **MFOQA**
 - **A-GCAS**
- **Increase proficiency**
 - **Back to basic on every flight**
- **Institutionalize CRM**
- **Enforce standards**

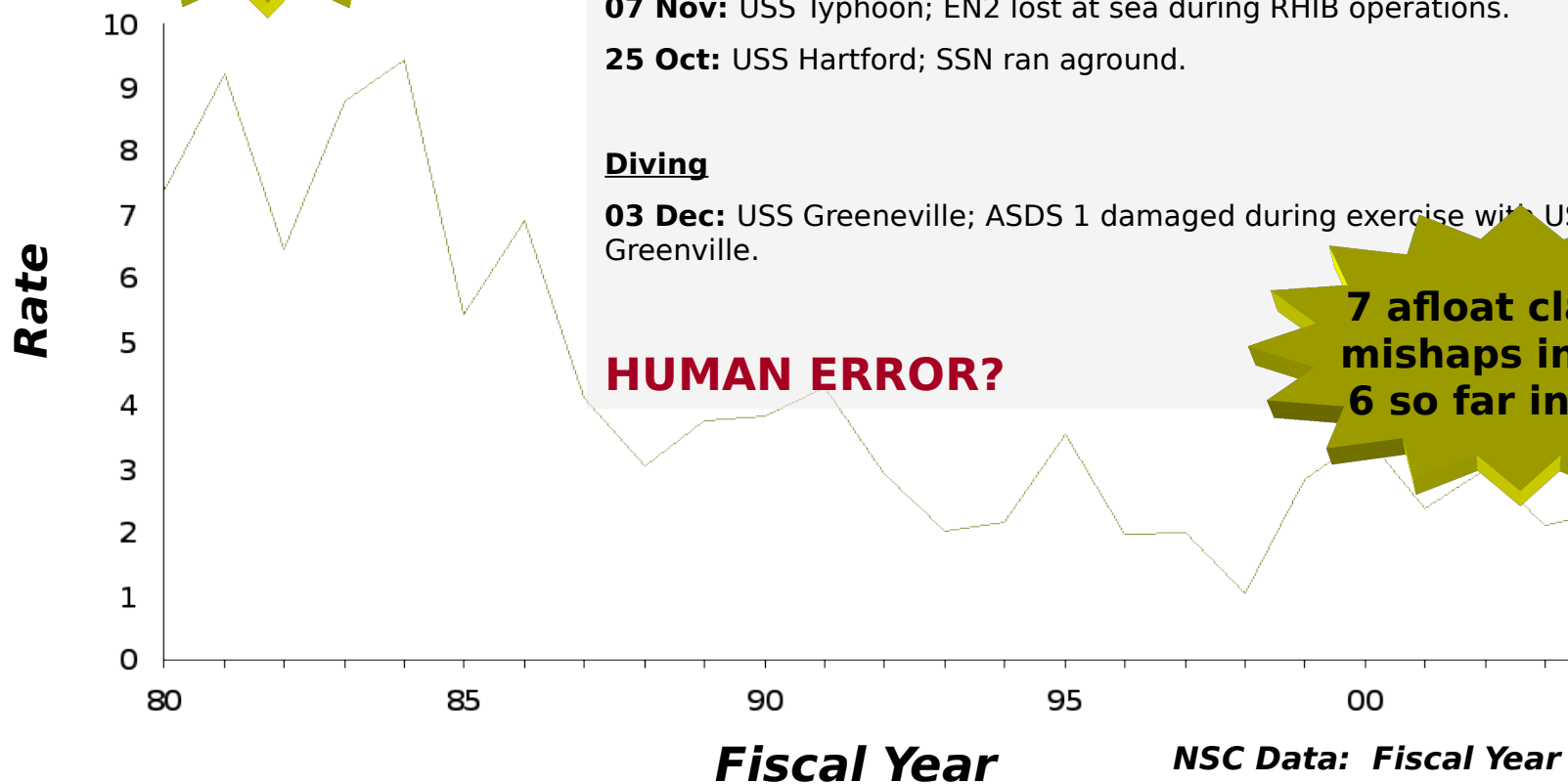




Afloat Mishap Trend

USN, FY80-04

**50 afloat
class A mishaps
in 1981**



USN FY04 Afloat Class A Mishaps

Ships and Submarines

06 Apr: USS John F. Kennedy; Hydrogen sulfide leak caused one fatality and one injury.

17 Feb: USS Germantown; CPL died when MIAI tank slid off LCAC and sank.

20 Dec: USS Whidbey Island; LCAC damaged.

07 Nov: USS Typhoon; EN2 lost at sea during RHIB operations.

25 Oct: USS Hartford; SSN ran aground.

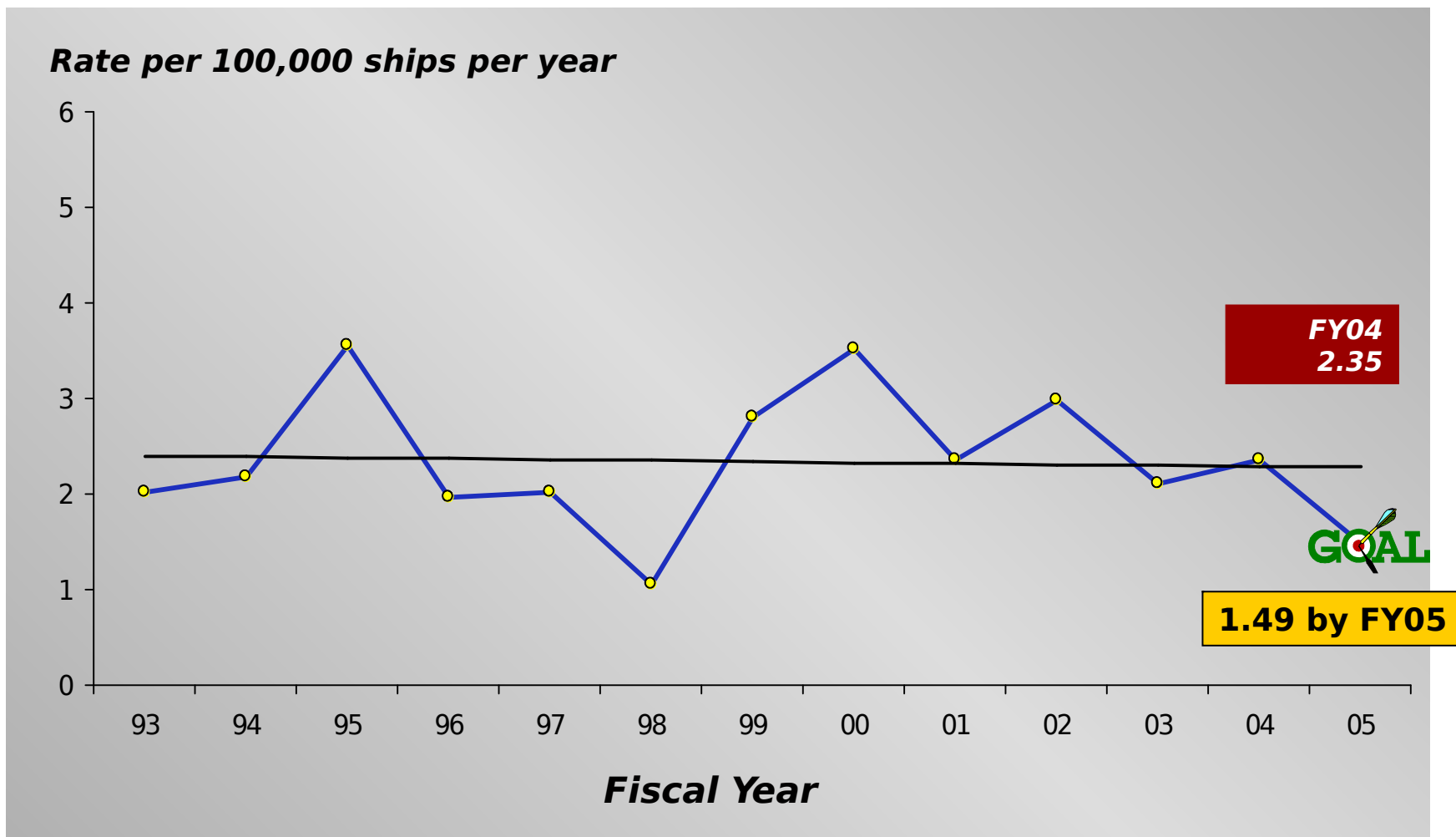
Diving

03 Dec: USS Greenville; ASDS 1 damaged during exercise with USS Greenville.

**7 afloat class A
mishaps in 2003
6 so far in 2004**



Afloat Class-A Mishap Rates



NSC Data: Fiscal Year 2004 (7 Jul)



Afloat

Procedures - Standards - Training - Awareness

Trends

Mishap Investigations

- **Inadequate supervision**
- **Poor PMS**
- **Poor CRM**
- **Poor situational awareness**
- **Complacency**

Surveys

- **Poor leadership, supervision**
- **Poor PMS**
- **Weak self-assessment capability**
- **Ineffective training**

Takeaways

- **Leadership commitment**
- **Enforce standards**
- **Increase checks and balances**
- **Institutionalize ORM**
- **Demand risk assessments**
- **Improve/standardize navigation technology**
- **Increase simulator training**





Operational Ashore Class A

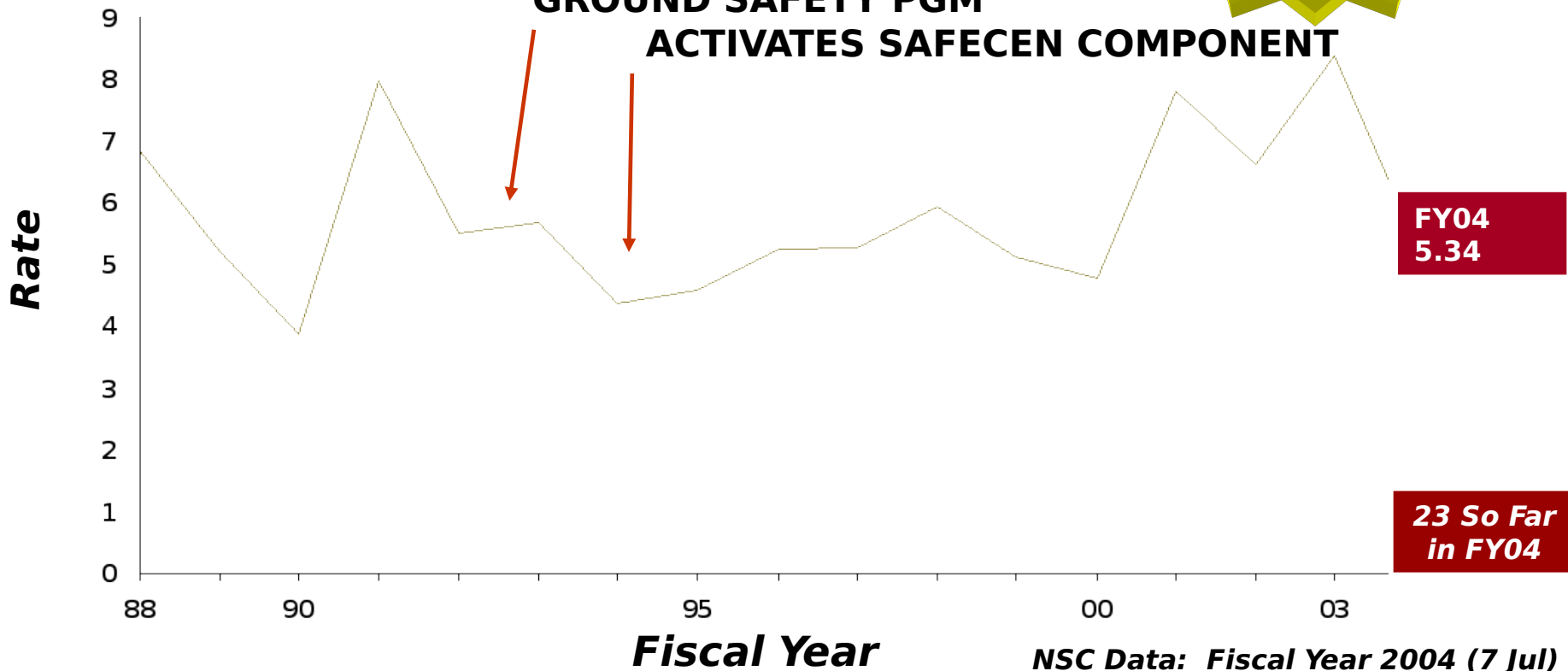
Mishap Trend

USN/USMC, FY88-04

54 Class A Mishaps
in 1988

47 Class A Mishaps
in FY03

ACMC ESTABLISHES
GROUND SAFETY PGM
ACTIVATES SAFECEN COMPONENT

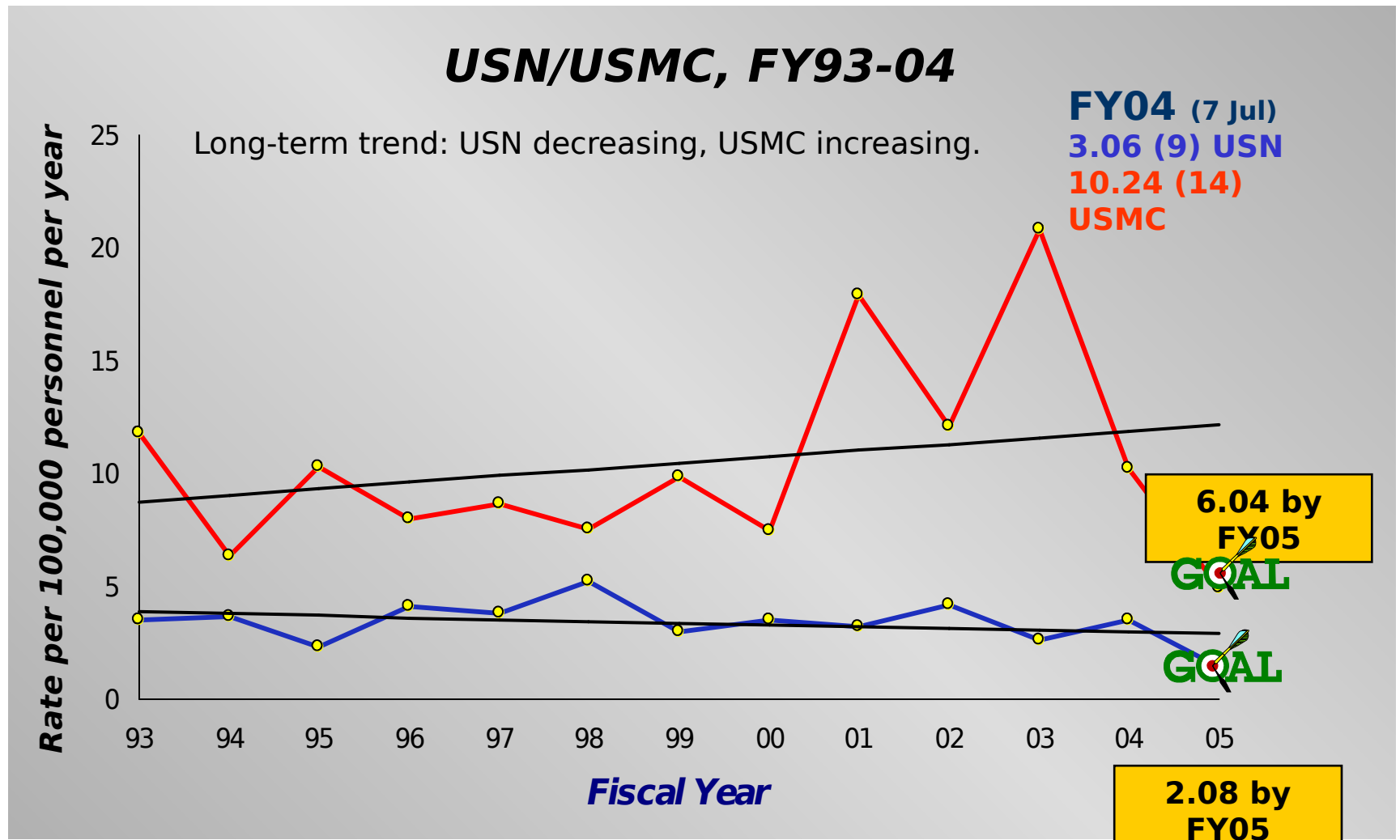


NSC Data: Fiscal Year 2004 (7 Jul)





Ashore Class-A Mishap Rates



NSC Data: Fiscal Year 2004 (7 Jul)





Shore

Procedures - Standards - Training - Awareness

Trends

Mishap Investigations

- **Lack of headwork**
- **Inadequate supervision**
- **Inexperience**
- **Complacency**
- **Alcohol involvement**
- **Non-use of PPE**

Surveys

- **Ineffective oversight**
- **Inadequate training**
- **Lack of ORM**
- **Poor command culture**

Takeaways

- **Leadership commitment**
- **Enforce standards**
- **Improve awareness**
- **Demand risk assessments**
- **Improve safety
manning/placement**
- **Increase checks and balances**
- **Institutionalize ORM**
- **Improve training**



PERSPECTIVE

"IN 1968, WE LOST 99 AMERICAN
SAILORS IN USS SCORPION,
WHICH WE THINK OF AS A
NATIONAL DISASTER;
WHILE WE LOST
103 SAILORS AND MARINES
IN PMV ACCIDENTS IN 1998,
AND CALL IT OUR 'BEST YEAR'!"

ROBERT B. PIRIE

ACTING SECRETARY OF THE NAVY

20 JANUARY - 24 MAY 2001

There are no memorials
to honor service members
who died in car accidents.



WHY DO WE ACCEPT PMV ACCIDENTS?



PMV Fatality Trend

**334 Fatalities
in FY88**

USN and USMC, FY88-04

**119 Fatalities
In FY03**

UNIFORM TRAFFIC COURSES

ALCOHOL/DRUG ZERO TOLERANCE

HQMC(SD) ESTABLISHED

CRITICAL DAYS OF SUMMER

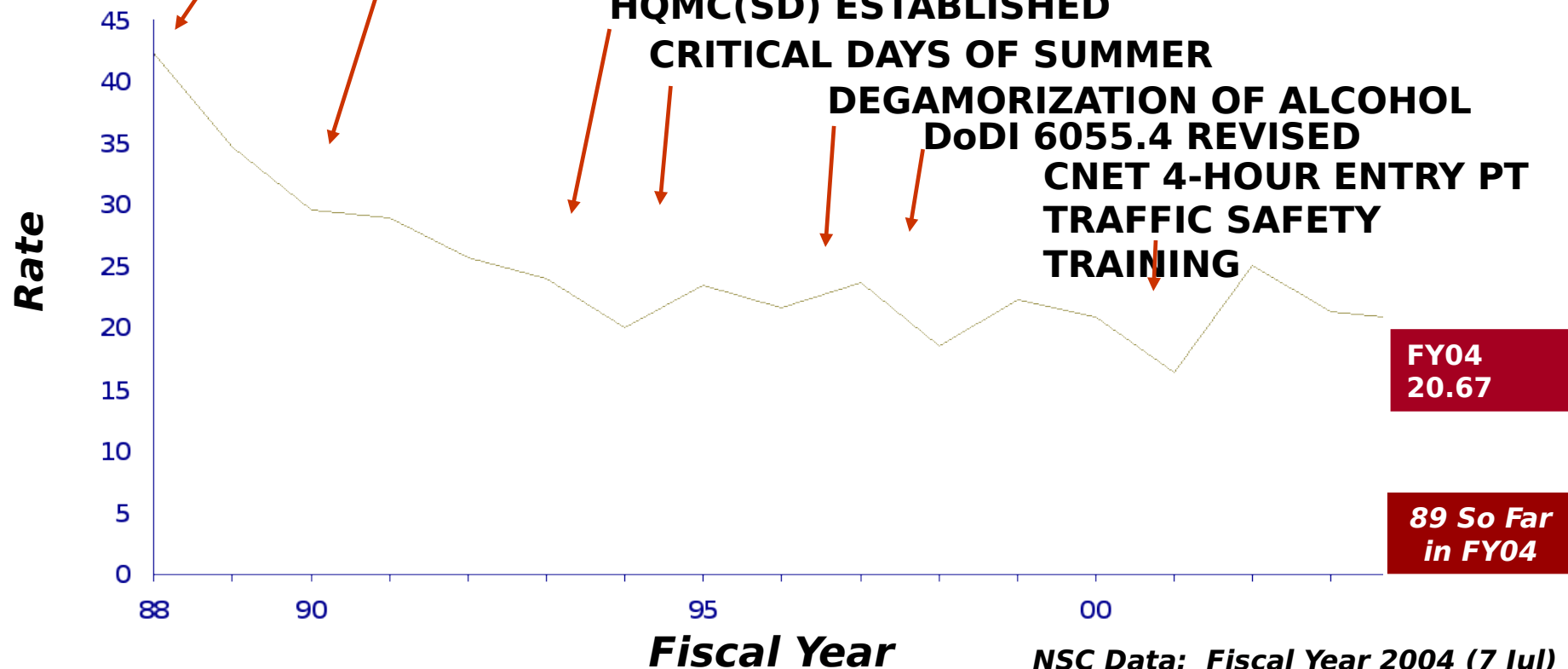
DEGAMORIZATION OF ALCOHOL

DoDI 6055.4 REVISED

CNET 4-HOUR ENTRY PT

TRAFFIC SAFETY

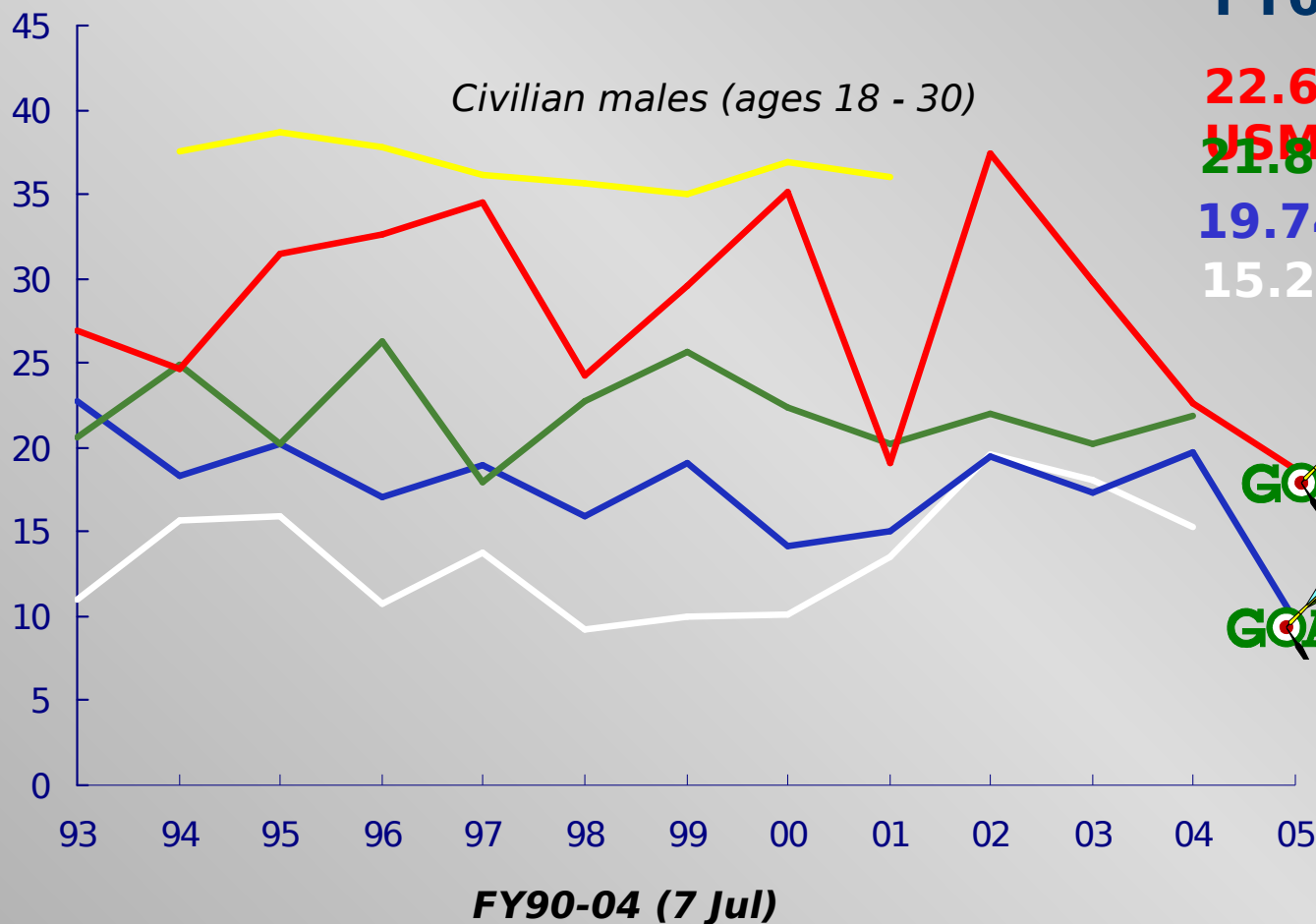
TRAINING





PMV Death Rates

Rate per 100,000 personnel



NSC Data: Fiscal Year 2004 (7 Jul)





PMV Worst Times

USN

USMC

Day of Week	SAT: 98 (26%)	SAT: 74 (25%)
Time of Day	0200-0259: 40 (11%)	0530-0629 27
Month	JUL: 44 (12%) AUG: 43 (11%)	APR: 35 (12%) JUL: 34 (11%)
Month/Day	JUL 14: 5 DEC 23: 5	DEC 23: 5
Day/Time: 2-hr Period:	SAT 0100-0259: 19	SAT 0330-0529:
16	SUN 0100-0259: 19	SUN 0130-0329:
16	SAT 0030-0129: 12	SAT 0030-0129:

12





Factors In Traffic Deaths

USN/USMC, FY01-03

FY01-03 Deaths:

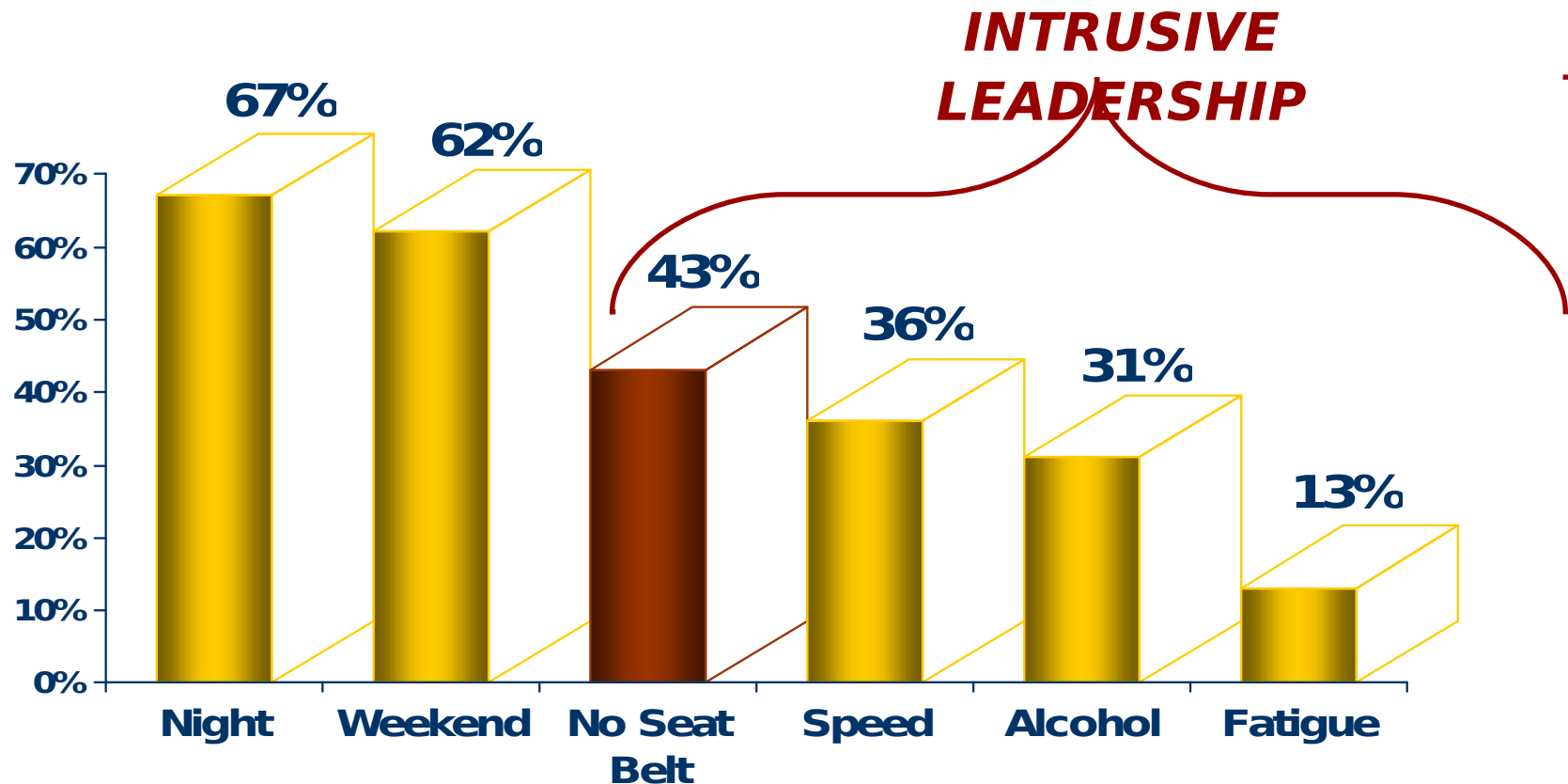
349

FY01: 90

FY02: 140

FY03: 119

FY04 Deaths: 89



NSC Data: Fiscal Year 2004 (7 Jul)





PMV Fatalities By Community

USN/USMC, FY99-04

Shore

Afloat

*USMC
Aviation*

*Navy
Aviation*

*USMC
Ground*

NSC Data: Fiscal Year 2004 (7 Jul)





Traffic Mishaps

The Navy-Marine Corps' #1 Readiness Problem

What We Can Do For You

- **Navy program manager**
- **Program guidance**
- **Surveys/Assist visits**
- **Mishap trends**
- **Certify instructors:**
 - **Motorcycle operators**
 - **Emergency Vehicle Operators Course**
 - **AAA / Driver Improvement Program**
- **Traffic ORM training**

What You Can Do

- **Set example**
- **Educate**
- **Enforce standards**
- **Fund intervention programs**





Traffic Safety

Common Problems

What Is Being Done

- **No traffic safety coordinator**
- **No motorcycle, AAA-DIP and/or EVOC training**
- **No seat belt program**
- **Mishap reporting deficiencies**
- **No prohibition on GMV operation when license suspended or DUI/DWI**
- **Personnel riding in cargo areas of vehicles**
- **Traffic devices/signs/roadway markings don't meet federal highway specifications**





Motor Vehicle Safety

What We're Doing For You

- ***Government agency partnership***
- ***Military services partnership***
- ***National Traffic Safety Coalition Groups***
- ***Fatal Vision Goggles***
- ***Click It or Ticket Campaign***

OUR PARTNERS IN SAFETY



**USMC
Safety
Division**



**US Department
of
Transportation**



**National Highway Traffic Safety
Administration's Lifesaver Conference and
Click It or Ticket Campaign**



**Fatal Vision
Goggles**



**National Safety
Council**



What You Can Do - These Things Work!

www.safetycenter.navy.mil/ashore/motorvehicle/downloads/toolbox.doc



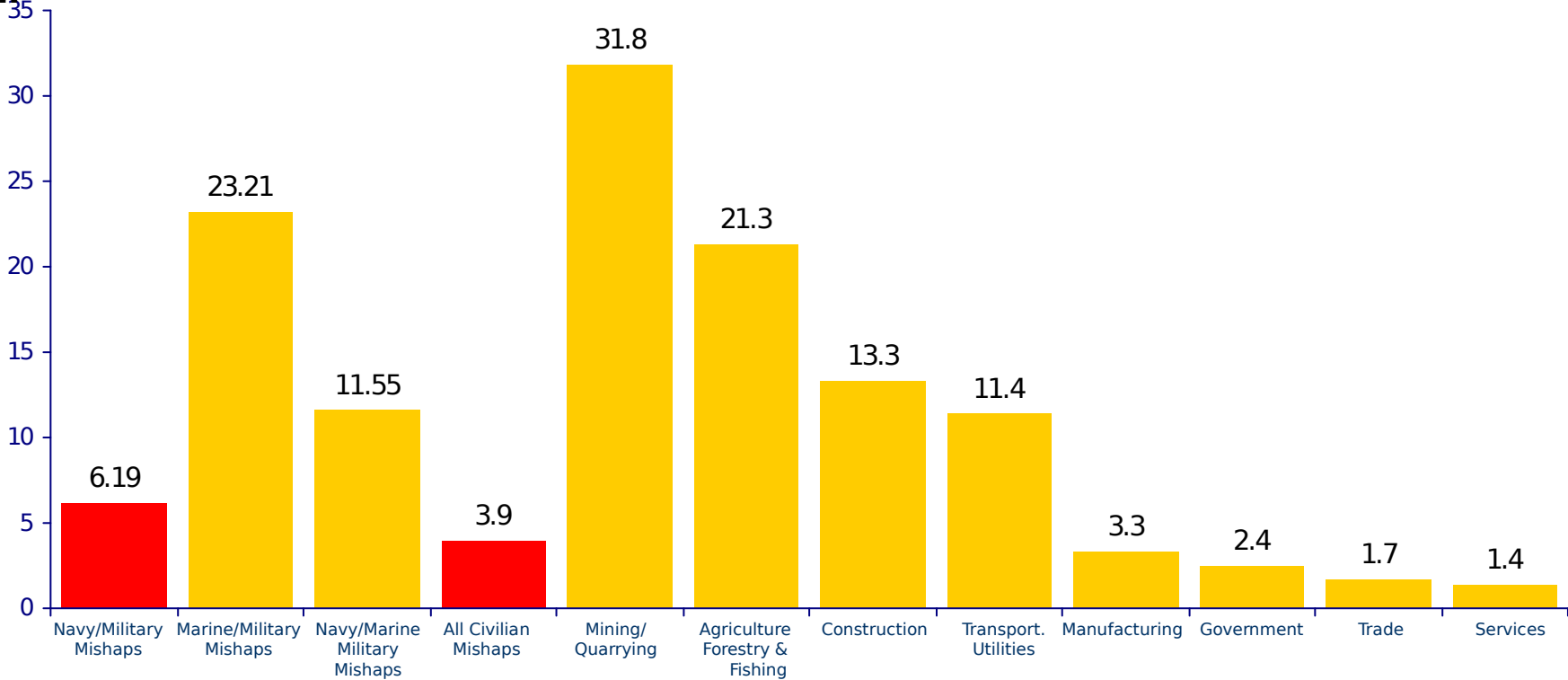
- **Leave chit statement**
- **PMV status board**
- **Designated driver/CMD transport**
- **Pre-trip checklist/brief/counseling**
- **Calling card for emergencies**
- **Co's PMV policy**
- **PMV safety quiz**
- **Safety stand-downs/seminars**
- **Pre-holiday briefs**
- **Newcomer orientation/indoctrination**
- **Leave/ liberty request**
- **Crash prevention awards program**
- **Form a Local Authority Partnership**



Occupational Fatality Rates

Navy/Marine Military and National

Rate per 100,000 personnel per year



Navy/Marine Data: FY99-03 average
Civilian Data: CY01

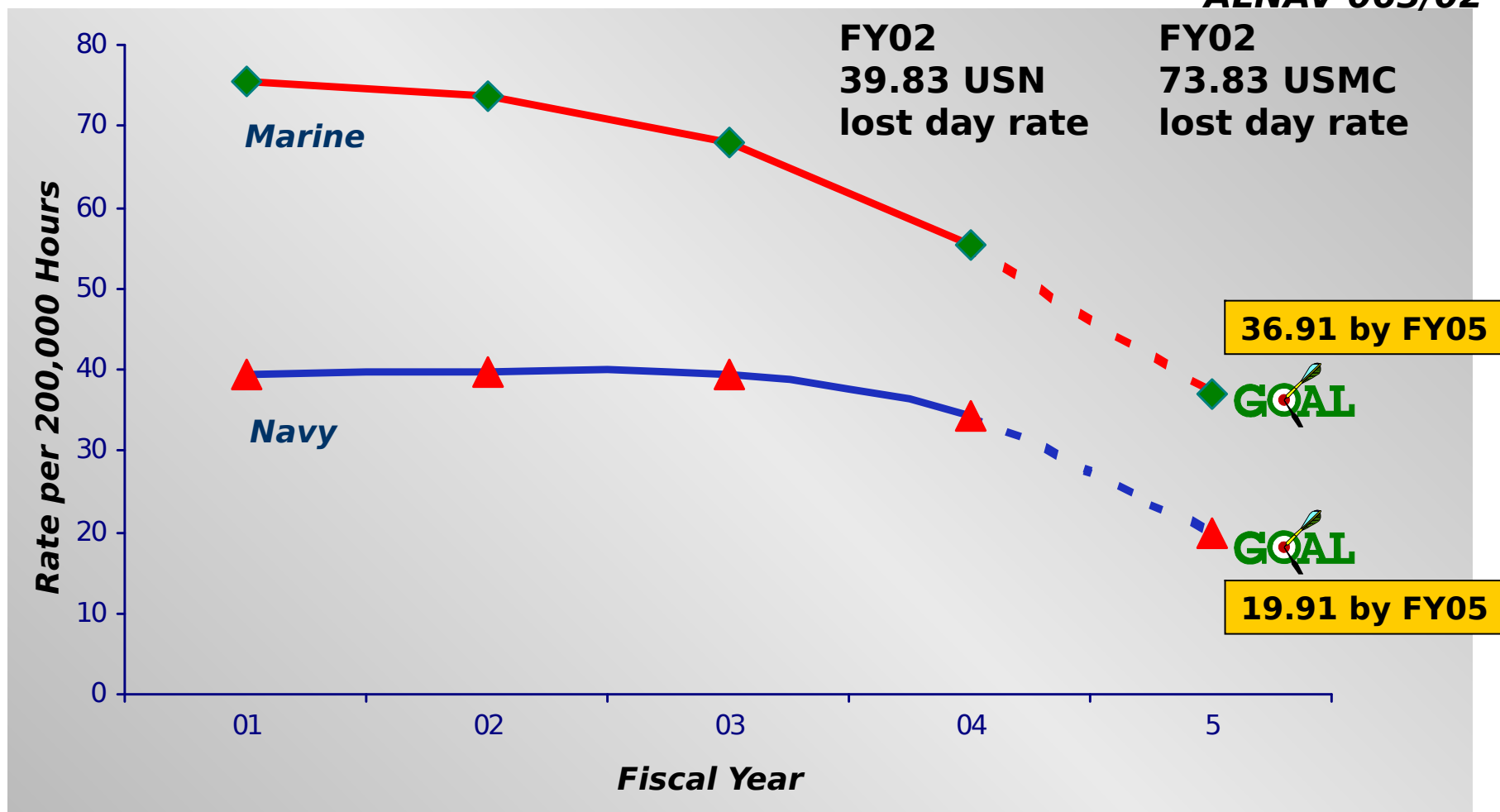




Lost Work Day Rates

No substantial short-term trends
50% reduction goal: 12.1 lost workdays per 100 workers
per year*

* ALNAV 063/02



NSC Data: Fiscal Year 2004 (7 Jul)





Recreation/Off-Duty

Death Rates

USN/USMC, FY88-04

59 fatalities
in 1988

32 fatalities
in 2003

OFF-DUTY USN INSTRUCTION SIGNED

HQMC(SD) ESTABLISHED

USMC OFF-DUTY PGM MGR &

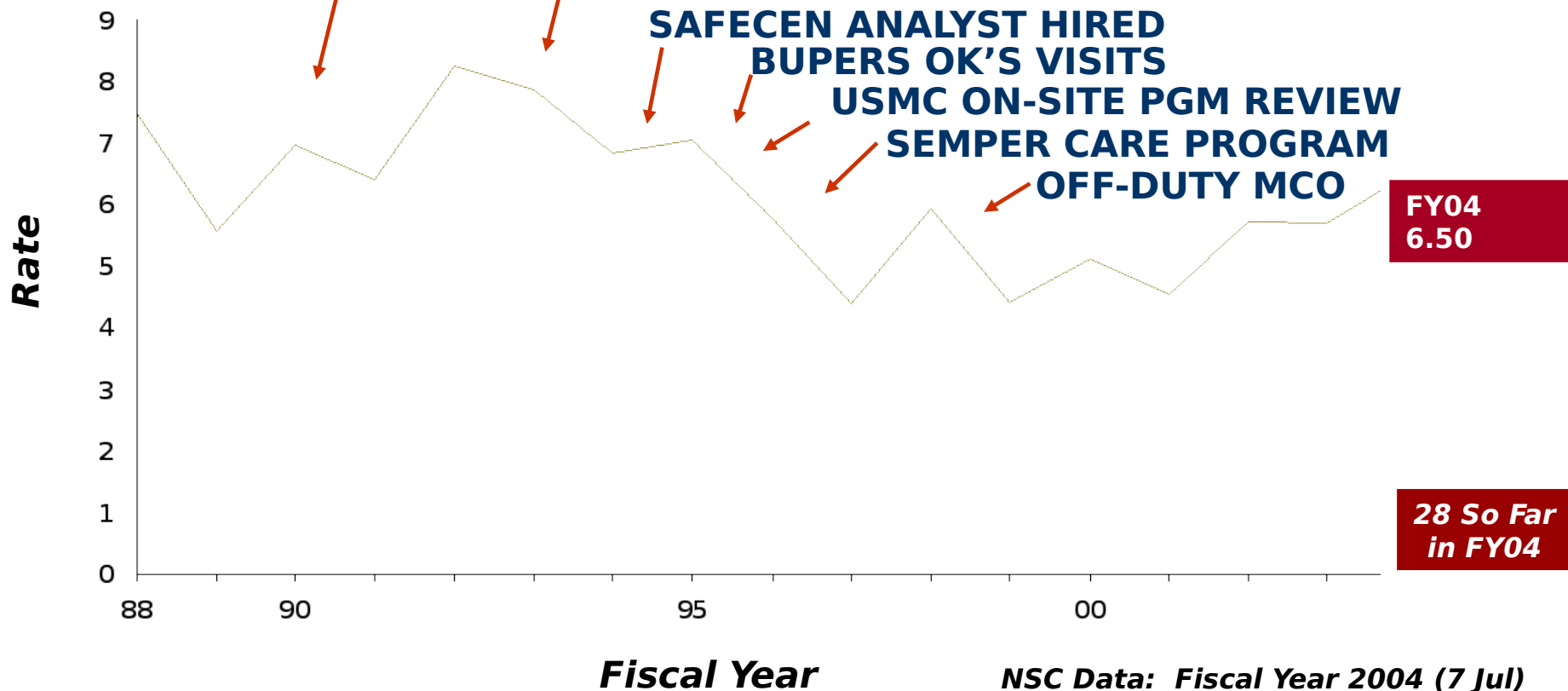
SAFECEN ANALYST HIRED

BUPERS OK'S VISITS

USMC ON-SITE PGM REVIEW

SEMPER CARE PROGRAM

OFF-DUTY MCO

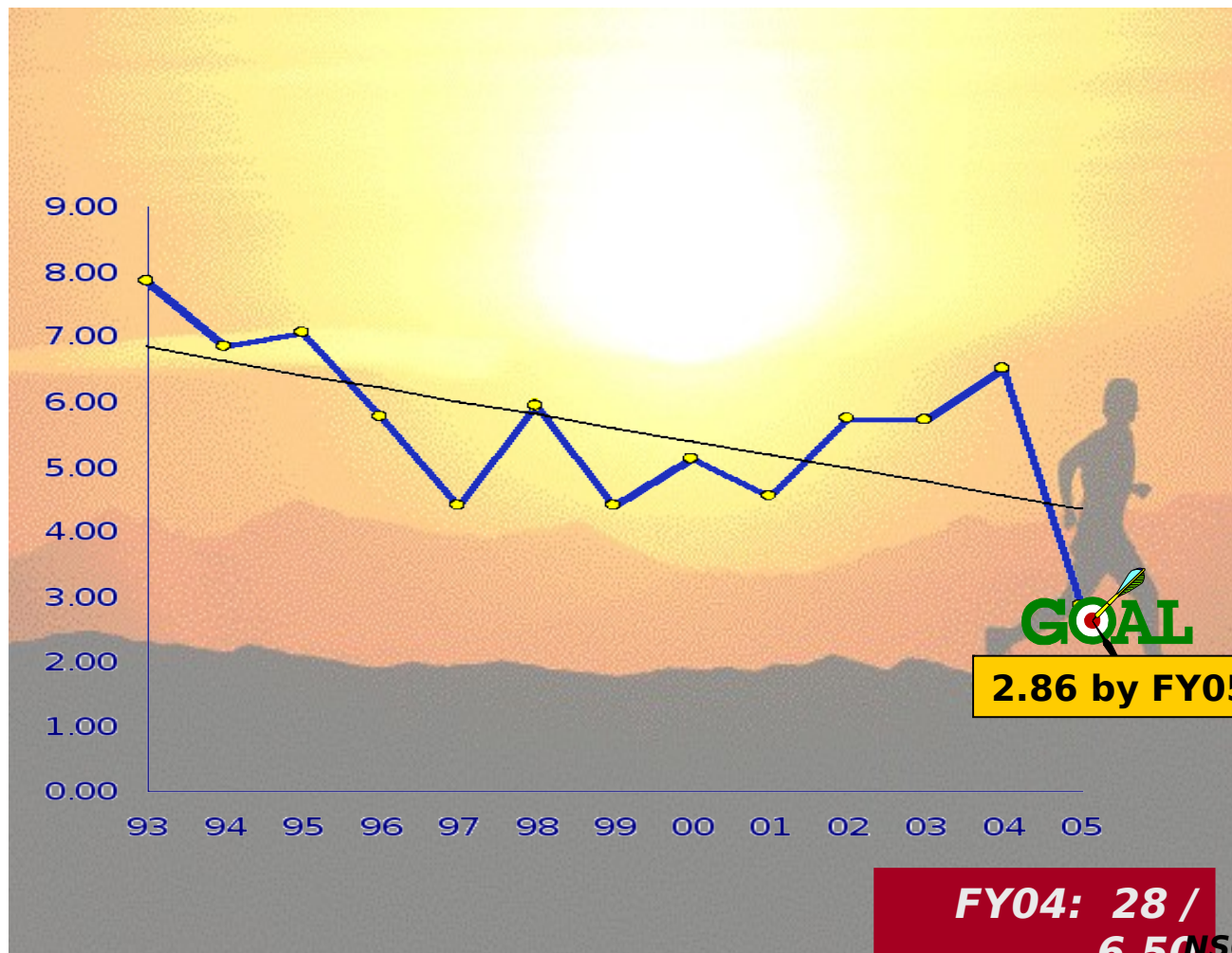




Recreation Off-Duty Death Rates

Rate per 100,000 personnel

USN/USMC, FY93-04 (7 Jul)



1982: Navy Off-Duty Program established

1990: OPNAV 5100.25A (Off-Duty Safety Program)

1993: Naval Safety Center starts collecting Marine Corps data

2000: Off-Duty ORM implemented

2001: MCO 5100.30A (Off-Duty Safety) revised

NSC Data: Fiscal Year 2004 (7 Jul)



Off-Duty Recreation Mishaps

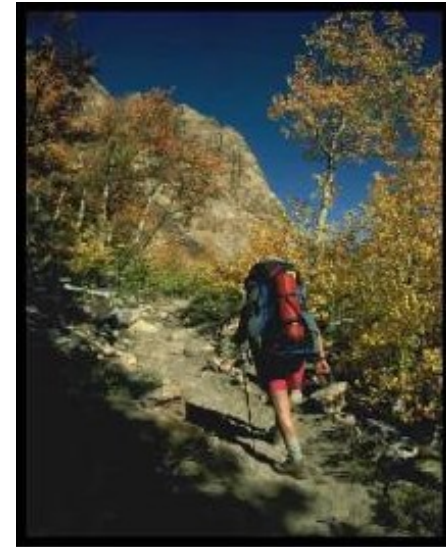
Leading Cause of Injuries

What We Can Do For You

- **Navy program manager**
- **Recreation safety “hot spots”**
 - **Team sports**
 - **Water sports**
 - **Biking, skiing, jogging**
- **Other off-duty problems**
 - **Vehicle maintenance**
 - **Falls**
- **Risk management [Vital!]**
- **Qualification training [Helps!]**

What You Can Do

- **Educate**
- **Risk management**
- **Enforcement**





Off-Duty Recreation Safety

Common Problems

- ***No designated off-duty/recreation manager***
- ***No records of hazard awareness training***
- ***No record of specific hazard training for hobby shop equipment or small boats***
- ***Poor maintenance of playing fields***
- ***No PPE for cycling, skating, racquetball***
- ***Insufficient cushioning under playground equipment for fall protection***
- ***Missing guards in woodworking shops***
- ***No inspections of bleachers/grandstands***



Field of Screams



Shore Mishap Investigations

What We Can Do For You

- ***Assist your Mishap Investigation Board (class A and select class B)***
- ***Arrange for technical support***
- ***Track endorsements and recommended actions***
- ***Class C & “near-miss” incidents***
- ***Coordination & liaison with OSHA region***

What You Can Do

- ***Seek the “ground” truth***
- ***Search for contributing factors***
- ***Root causes***
- ***Use results for mishap-prevention purposes only***
- ***Learn from class “C” & “near-miss” incidents***
- ***Surveys work!***
- ***Ask the what, why, how, who, when, where***
Use the answers to prevent the next one!



Other Shore Safety Programs

- ***Fire protection***
- ***Explosives and weapons systems***
- ***Tactical operations (USMC)***
- ***High-risk training***
 - ***rappelling/parachuting/combat shooting, etc.***



OPERATIONAL RISK MANAGEMENT

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LEADERSHIP COMMITMENT



ORM: A Tool For Leaders



- ***Easy, common-sense process***
- ***Mind-set***
- ***Way of life***
- ***Operating discipline***
- ***Process must be taught***

Five Steps



YOU CAN'T "ORM" SOMETHING THAT'S STUPID, TO SOMETHING THAT'S SMART!!!



Secretary Rumsfeld's Challenge



THE SECRETARY OF DEFENSE
1000 DEFENSE PENTAGON
WASHINGTON, DC 20301-1000

May 19, 2003

MEMORANDUM FOR SECRETARIES OF THE MILITARY DEPARTMENTS
CHAIRMAN OF THE JOINT CHIEFS OF STAFF
UNDER SECRETARIES OF DEFENSE
DIRECTOR, DEFENSE RESEARCH AND ENGINEERING
ASSISTANT SECRETARIES OF DEFENSE
GENERAL COUNSEL OF THE DEPARTMENT OF DEFENSE
INSPECTOR GENERAL OF THE DEPARTMENT OF DEFENSE
DIRECTOR, OPERATIONAL TEST AND EVALUATION
ASSISTANTS TO THE SECRETARY OF DEFENSE
DIRECTOR, ADMINISTRATION AND MANAGEMENT
DIRECTOR, FORCE TRANSFORMATION
DIRECTOR, NET ASSESSMENT
DIRECTOR, PROGRAM ANALYSIS AND EVALUATION
DIRECTORS OF THE DEFENSE AGENCIES
DIRECTORS OF THE DOD FIELD ACTIVITIES

SUBJECT: Reducing Preventable Accidents

World-class organizations do not tolerate preventable accidents. Our accident rates have increased recently, and we need to turn this situation around. I challenge all of you to reduce the number of mishaps and accident rates by at least 50% in the next two years. These goals are achievable, and will directly increase our operational readiness. We owe no less to the men and women who defend our Nation.

I have asked the Under Secretary of Defense for Personnel and Readiness to lead a department-wide effort to focus our accident reduction effort. I intend to be updated on our progress routinely. The USD(P&R) will provide detailed instructions in separate correspondence.



U06916-03

“World-class organizations do not tolerate preventable accidents. Our accident rates have increased recently, and we need to turn this situation around. **I challenge all of you to reduce the number of mishaps and accident rates by at least 50% in the next two years.**”

*Memorandum from
Secretary of Defense
19 May 2003*





Naval Safety Center Campaign

- Support DoD's 50% mishap reduction goal***
- Expand and institutionalize safety awareness***
- Promote leadership commitment to cultural change***
- Expand human factors research***
- Continue risk management education / training***
- Continue developing web-based reporting system (WESS)***
- Navy - Marine Corps Safety Council***



What We've Done So Far

- **Establish Navy - Marine Corps Safety Council**

- ***Identified 4 working groups:***

- **Afloat Safety**
- **Aviation Safety**
- **Shore Safety**
- **Ground Tactical Safety**

- ***Drafted Naval Safety 50% Reduction Plan and POA&M***

- ***Held Initial Chair/ Co-chair meeting 16 December 2003***





NAVAL SAFETY CENTER

*It's Your Safety
Center!*





Questions/Discussions

***RADM Dick Brooks, USN
DSN 564-3520 ext. 7003
richard.brooks@navy.mil***

***Visit our website:
www.safetycenter.navy.mil***